

REMARKS

Status of the claims:

With the above amendments, claims 3, 5, 7, 9, and 12-13 have been amended and claims 15-17 have been canceled. Thus, claims 1 and 3-14 are pending and ready for further action on the merits. No new matter has been added by way of the above amendments. The claims have merely been amended to make them more understandable. Support for the amendments to claims 12 and 13 can be found at page 6, line 13. Entry of the amendments and reconsideration is respectfully requested in light of the following remarks.

Claim Objections

Claims 3, 5, and 7 have been objected to for informalities.

In claim 3, the Examiner asserts that "catalyst" should be "the catalyst". Applicants have amended the claim accordingly. Withdrawal of the objection is warranted and respectfully requested.

In claim 5, the Examiner asserts that "wherein bulk density is" should be changed to "wherein the catalyst having a bulk density of". Applicants believe that claim 5 should more appropriately be changed to "wherein the catalyst has a bulk density of" and have amended the claim accordingly. Applicants believe that with this amendment that the objection is obviated.

Withdrawal of the objection is warranted and respectfully requested.

In claim 7, the Examiner asserts that "phosphorous" should be changed to "phosphorus". Although both spellings are accepted in English, Applicants have amended the claim accordingly. Withdrawal of the objection is warranted and respectfully requested.

Rejections under 35 USC §112, first paragraph

Claims 1 and 3-11 are rejected under 35 USC §112, first paragraph as allegedly lacking description.

Applicants traverse.

The Examiner asserts that the language "wherein the pore volume of all pores determined by the mercury intrusion method is 0.87 cm³/g or greater" constitutes new matter. Applicants disagree. First, Applicants note that on page 25, line 22 of the written description it says:

Based on the results in Tables 1-A and 1-B, it is clear that pore volume by the nitrogen absorption method is 0.59 cm³/g or greater and median pore diameter is 8.2 mm or larger, while pore volume by the mercury intrusion porosimetry method is 0.88 cm³/g or greater and pore volume of pores with a pore diameter of 50 nm or larger determined by the mercury intrusion porosimetry method is 0.33 cm³/g or greater.

Further, Applicants note that in claim 1 as originally filed, it states:

. . . and pore volume of pores having a pore diameter of 50 nm or larger determined by the mercury intrusion porosimetry method is 0.32 cm³/g or greater.

Original claim 2 recites:

2. A hydrorefining catalyst according to claim 1, wherein pore volume determined by the mercury intrusion porosimetry method is 0.87 cm³/g or greater.

At page 4, lines 12-16, it is stated:

It is preferred that the hydrorefining catalyst of the present invention have a pore volume determined by the mercury intrusion porosimetry method of 0.87 cm³/g or greater so that it will have even better demetallizing activity.

Applicants respectfully submit that the Examiner has inadvertently misinterpreted claims 1 and 2. The Examiner has improperly construed the language "wherein pore volume determined by the mercury intrusion porosimetry method is 0.87 cm³/g or greater" as meaning that the pore volume of pores with a diameter of 50 nm or larger is 0.87 cm³/g or greater as determined by the mercury intrusion porosimetry method. However, the correct interpretation would be to construe the language "wherein pore volume determined by the mercury intrusion porosimetry method is 0.87 cm³/g or greater" to mean that the pore volume of all pores is 0.87 cm³/g or greater as determined by the mercury intrusion porosimetry method. From this interpretation, it is clear to those of skill in the art that this is in no way new matter.

Applicants again reproduce the passage that occurs at page 25, line 22 to page 26, line 3:

Based on the results in Tables 1-A and 1-B, it is clear that pore volume by the nitrogen adsorption method is 0.59 cm³/g or greater and median pore diameter is 8.2 nm or larger, while pore volume by the mercury intrusion porosimetry method is 0.88 cm³/g or greater and pore volume of pores with a pore diameter of 50 nm or larger determined by the mercury intrusion porosimetry method is 0.33 cm³/g or greater.

The above passage should make it abundantly clear to those of ordinary skill in the art that the pore volume of 0.88 cm³/g or greater refers to all pores. This is because the pore volume of pores with a diameter of 50 nm or greater is 0.33 cm³/g or greater. Thus, it should be clear that for pores with a pore diameter of 50 nm or greater, the pore volume as determined by the mercury intrusion porosimetry method cannot be both 0.33 cm³/g or greater and 0.88 cm³/g and greater.

This is further supported by the passage at page 9, lines 3-6, which states:

Determination by the mercury intrusion porosimetry method was performed within a range of 2 to 4,225 kg/cm² (30.4 to 60,000 psia), with the contact angle of mercury being 140° and surface tension being 480 dyne/cm

The Examiner should note that this passage supports the notion that it is all pores that are being measured as the range is broad. This is made even more clear when one considers that two sets of measurement parameters and ranges are given at page 9,

lines 7-16. Applicants submit that this passage, when read as a whole, indicates that there are two measurements for the pores using the mercury intrusion method. The second method indicates that for pores with a pore diameter of 50 nm or more, the pore volume is 0.33 cm³/g or greater as determined by the mercury intrusion porosimetry method. By inference, one of skill in the art would readily recognize that this paragraph (i.e., the paragraph that starts at page 25 line 22) means that when all pores are measured by the mercury intrusion porosimetry method, the value obtained is 0.88 cm³/g or greater (or as stated at page 4, line 14 is 0.87 cm³/g or greater). Accordingly, the above should make it clear to those of skill in the art that the mercury intrusion porosimetry method measures a wide range of several nm or larger, that is, all pores.

Applicants believe that the recitation at page 4, lines 12-16 provides further support for all pores being measured. Although all pores are not explicitly recited, one of skill in the art in reading this passage would realize that this is what was meant. Applicants point out that it is well-settled that *in haec verba* support is not needed to have written description support. See, for example, *Eiselstein v. Frank*, 52 F.3d 1035, 1038, 34 USPQ2d 1467, 1470 (Fed. Cir. 1995), *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555 1562, 19 USPQ2d 1111, 1115 (Fed. Cir. 1991), and *In re Wertheim*, 541 F.2d 257, 265, (CCPA 1976).

Thus, when one reads the specification as a whole, one is left no alternative but to conclude that when the pores measured by the mercury intrusion porosimetry method to give a value of 0.87 cm³/g, it refers to all pores. For the above reasons, Applicants submit that the rejection is inapposite. Withdrawal of the rejection is warranted and respectfully requested.

Rejections under 35 USC §112, second paragraph

Claims 1 and 3-11 are rejected under 35 USC §112, second paragraph as being indefinite. In claim 1, the Examiner asserts that it is unknown what is meant by "the pore volume of all pores determined by the mercury intrusion porosimetry method is 0.87 cm³/g or greater". Applicants find nothing vague or indefinite about this statement. Applicants believe that the above description regarding the interpretation of original claims 1 and 2 addresses this rejection. The incorrect way makes no sense and is not supported by the written description when read as a whole. In other words, this phrase in light of the above explanation can be considered neither vague nor indefinite. Withdrawal of the rejection is warranted and respectfully requested.

Claim 9 is rejected for reciting "a metal disposition" in line 2 and "a fresh catalyst" in line 3. The Examiner asserts that because claim 1 says nothing about metal deposition or

fresh catalyst in claim 1, that both of these phrases lack antecedent basis. Applicants have amended claim 9 to make it more understandable and this is clearly a non-narrowing amendment. Applicants believe that with this amendment that the rejection has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

Rejections under 35 USC §103

Claim 12 is rejected under 35 USC §103(a) as being unpatentable over Simpson '265 (US Patent No. 4,879,265).

Claims 13 and 14 are rejected under 35 USC §103(a) as being unpatentable over Simpson '265 in view of Asaoka '059 (US Patent No. 4,562,059).

The Examiner asserts that because crystalline is not in the claims, the γ -alumina of the instant invention reads on both crystalline and non-crystalline γ -alumina. Applicants have amended claims 12 and 13 to recite crystalline γ -alumina. Accordingly, because neither of Simpson '265 nor Asaoka '059 disclose or remotely suggest crystalline γ -alumina, Simpson '265 and Asaoka '059 cannot render *prima facie* obvious the instant invention. Applicants believe that the rejection has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

Interview Request

Applicants' representative telephoned the Examiner to request an Interview on February 23, 2004. The Examiner had a message on the Examiner's answering machine indicating she was on leave until the end of March. Applicants, thus respectfully request that the Examiner contact Applicants' representative prior to acting on this application to address this interview request.

With the above remarks and amendments, Applicants believe that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

If any questions remain regarding the above matters, please contact Applicant's representative, T. Benjamin Schroeder (Reg. No. 50,990), in the Washington metropolitan area at the phone number listed below.

Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), Applicants respectfully petition for one (1) month extension of time for filing a response in connection with the present application. The required fee of \$110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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